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MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,  
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
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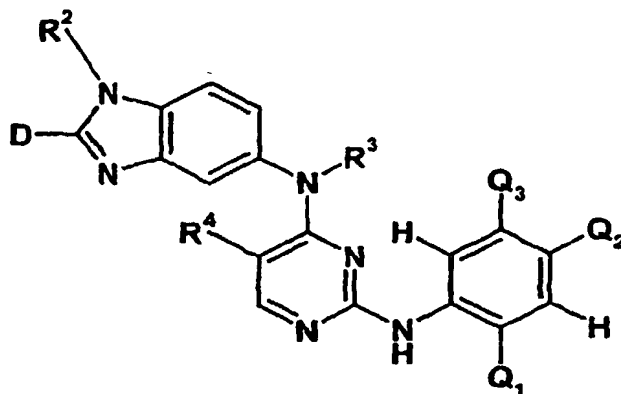
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Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: DIAMINO-PYRIMIDINES AND THEIR USE AS ANGIOGENESIS INHIBITORS



(I)

(57) Abstract: Benzimidazole derivatives of formula  
(I) , which are useful as TIE-2 and/or VEGFR-2  
inhibitors are described herein. The described invention  
also includes methods of making such benzimidazole  
derivatives as well as methods of using the same in the  
treatment of hyperproliferative diseases. (I)

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>PU4759W0</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 03/ 06022</b>	International filing date (day/month/year) <b>28/02/2003</b>	(Earliest) Priority Date (day/month/year) <b>01/03/2002</b>
Applicant  <b>SMITHKLINE BEECHAM CORPORATION</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**DIAMINO-PYRIMIDINES AND THEIR USE AS ANGIOGENESIS INHIBITORS**

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. ---

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

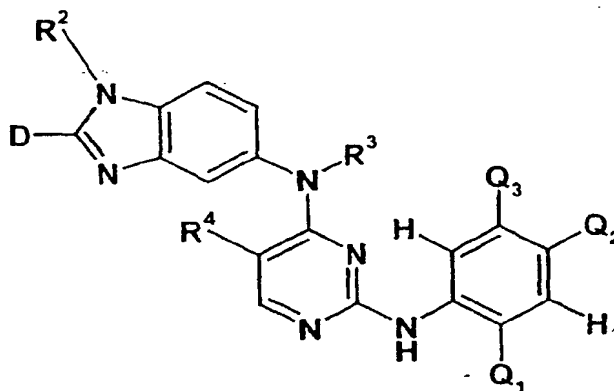
# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 03/06022

## Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

Benzimidazole derivatives of formula (I), which are useful as TIE-2 and/or VEGFR-2 inhibitors are described herein. The described invention also includes methods of making such benzimidazole derivatives as well as methods of using the same in the treatment of hyperproliferative diseases.



(II)

# INTERNATIONAL SEARCH REPORT

National Application No

PCT/US 03/06022

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D403/12 C07D401/14 C07D403/14 C07D405/14 C07D409/14  
C07D413/14 A61K31/506 A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BEILSTEIN Data, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 97 19065 A (CELLTECH THERAPEUTICS LIMITED) 29 May 1997 (1997-05-29) the whole document, particularly example 101	1-60
Y	WO 00 12089 A (MERCK & CO., INC.) 9 March 2000 (2000-03-09) the whole document	1-60
P, Y	WO 02 059110 A (GLAXO GROUP LIMITED) 1 August 2002 (2002-08-01) the whole document, particularly examples 74 and 75	1-60

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

6 June 2003

Date of mailing of the international search report

25/06/2003

Name and mailing address of the ISA

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Authorized officer

Allard, M

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

Continuation of Box I.2

Claims Nos.: 1, 2, 23-60 (all in part)

The scope of claims 1, 2 and 23-60, in as far as the expression "physiologically functional derivative" is concerned, is so unclear (Article 6 PCT) that a meaningful international search is impossible with regard to this expression.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 03/06022

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although claims 34, 35, 39-59 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 1, 2, 23-60 (all in part)  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/06022

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9719065	A	29-05-1997	AU 7631496 A	11-06-1997
			DE 69627179 D1	08-05-2003
			EP 0862560 A1	09-09-1998
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			US 5958935 A	28-09-1999
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			CA 2341409 A1	09-03-2000
			EP 1109555 A1	27-06-2001
			JP 2002523459 T	30-07-2002
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			US 6162804 A	19-12-2000
			US 6465484 B1	15-10-2002
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WO 02059110	A	01-08-2002	WO 02059110 A1	01-08-2002
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